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Appl. No. 10/565,489
Amendment Dated 10/19/2009
Reply to Office Action of 07/21/2009

REMARKS/ARGUMENTS

In the Office Action, the Examiner continues to reject independent claim 1 based on JP2001-324102. As will be discussed further below, Applicants respectfully traverse the Examiner's argument that JP '102 discloses all of the features of Applicants' invention, and most-particularly, the claimed feature where the fluid from the nose wall 5, which nose wall *projects into a boiler furnace*, is *not* introduced into the ceiling wall inlet mixing header 8.

As a synopsis of Applicants' invention, the fluid from a plurality of upper walls, where the plurality of upper walls includes side walls 2, a front wall 3, and a screen pipe 4, and does *not* include a nose wall 5, is lead to a ceiling wall 7 through a ceiling wall inlet header 8. Additionally, the fluid from the nose wall 5, which nose wall *projects into a boiler furnace*, is introduced into the auxiliary side walls 6 through outlet connecting ducts 12, and the fluid coming from the nose wall is *not* introduced into the ceiling wall inlet mixing header 8. Thus, the fluid from the side walls 2, the front wall 3, and the screen pipe 4 is lead to the ceiling wall 7 through the ceiling wall inlet header 8. The fluid from the nose wall 5, which nose wall *projects into a boiler furnace*, is introduced into the auxiliary side walls 6 through outlet connecting ducts 12, and thus, is *not* introduced into the ceiling wall inlet mixing header 8.

Applicants respectfully submit for the Examiner's consideration that the most important feature of the present invention is that the high temperature fluid coming from the nose wall 5, which fluid has a high temperature because the nose wall has a *portion projected into a furnace*, is *not* introduced into the ceiling wall inlet mixing header 8. This is required because the nose wall, which has a portion projected into a furnace as shown in *Fig. 5* of Applicants' application, is high in heat absorption at the projected portion and the fluid coming from the nose wall is so high in temperature as compared with the fluid coming from the side walls, the front wall, and the screen wall. Consequently, if the high temperature fluid coming from the nose wall is mixed into the ceiling wall inlet mixing header, adverse effects will be caused, as evidenced in para.

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0036 of Applicants' published application. In other words, the temperature difference reduction effect is lost. Thus, Applicants' invention provides that the high temperature fluid coming from the nose wall 5, which has a portion projected into a furnace, is not introduced into the ceiling wall inlet mixing header 8.

In the Office Action, in arguing where this feature is disclosed in JP '102, the Examiner merely argues that JP '102 discloses that "the fluid coming from the nose wall is not introduced into the ceiling wall inlet mixing header" and generally directs the Applicants' attention to "SEE Figure". Further, in the Response to Arguments section of the Office Action, the Examiner has not addressed Applicants' arguments with respect to this feature in the Amendment filed in this application on June 12, 2009. The Examiner has merely directed his arguments in the Response to Arguments section to the features of the bent portion of the ceiling wall inlet mixing header.

In response to the Examiner's arguments, Applicants respectfully submit that the Examiner has made no argument in the Office Action for Applicants' claimed structure of the nose wall having a *portion projected into a furnace*. The Examiner merely argues that fluid coming from the nose wall is not introduced into the ceiling wall inlet mixing header. Applicants respectfully submit that even if the Examiner's argument can be made, that the Examiner's argument has not addressed where all of the claimed structure of Applicants' invention is disclosed in JP '102.

Applicants respectfully submit that JP '102 provides no disclosure for Applicants' claimed structure where the nose wall has a portion that projects into a furnace. Applicants respectfully submit that whereas Fig. 1 of JP '102 may appear similar to Fig. 1 of Applicants' application, both figures are merely schematic views explaining the flow of the fluid in a boiler furnace and it is impossible to conclude, by only considering Fig. 1 of JP '102 and Applicants' application, that each of the boiler apparatuses has a nose wall having a portion projected into a furnace. Therefore, that's why Applicants' application provides a

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schematic configuration of the boiler apparatus as a whole in Fig. 5 to particularly describe the construction of Applicants' boiler apparatus. As shown in Fig. 5, the nose wall 5 has a portion that projects into a furnace. In contrast, Applicants respectfully submit that JP '102 provides no disclosure regarding this construction.

Therefore, Applicants respectfully submit that JP '102 does not disclose all of the structure of Applicants' claimed invention where the fluid from the nose wall 5, which nose wall projects into a boiler furnace, is not introduced into the ceiling wall inlet mixing header 8. Again, in Applicants' invention, because the nose wall projects into a boiler furnace, the fluid from the nose wall is not introduced into the ceiling wall inlet mixing header. Applicants respectfully submit that independent claim 1 is allowable for at least this reason.

Further in the Office Action regarding claim 1, as discussed above, the Examiner has argued in the Response to Arguments section that "applicant argues that this bent design provides for changing the direction of the flow of the fluid, however, evidence of such a benefit are [sic] not found in the applicants [sic] specification." (emphasis added). Applicants respectfully submit that this assertion by the Examiner is incorrect.

Applicants respectfully submit that evidence of such a benefit is provided in Applicants' specification at para. 0028 of Applicants' published application. As explained in Applicants' specification at para. 0028, "when the bent portion 23 is provided halfway in the ceiling wall inlet mixing header 8, the flow of fluid can be changed so that fluid mixing can be performed satisfactorily." (emphasis added). Therefore, if the Examiner is arguing that this benefit is not disclosed in the specification such that it cannot therefore be used to argue against the Examiner's obviousness argument, then Applicants respectfully submit that this argument by the Examiner is also improper.

Applicants note that the Examiner acknowledges in the Office Action that JP '102 does not disclose this feature of Applicants' invention. However, the Examiner argues that changing a straight tube to a bent tube to achieve the

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same function of the straight tube but only in a more compact structure would be obvious. However, as discussed above, Applicants respectfully submit that the bent portion 23 halfway in the ceiling wall inlet mixing header 8 does not merely achieve the same function of the straight tube in a more compact structure. Rather, as evidenced in Applicants' specification, this bent design provides for changing the direction of the flow of the fluid, which change in the direction of the flow of the fluid provides for improved fluid mixing.

Therefore, Applicants respectfully submit that not only is Applicants' claimed configuration for the bent portion halfway in the ceiling wall inlet mixing header not disclosed by JP '102, but additionally, JP '102 does not teach structure which renders Applicants' claimed structure obvious. Applicants respectfully submit that Applicants' claimed structure is not "a predictable variation" of the structure of JP '102, but rather, is a non-obvious structure that provides additional functionality for the ceiling wall inlet mixing header of Applicants' invention, which is evidenced in Applicants' specification, when compared to the Examiner's interpreted structure for the ceiling wall inlet mixing header of JP '102.

Therefore, Applicants respectfully submit that claim 1 is allowable for at least this additional reason.

Further in this Amendment, Applicants have amended claim 1 to obviate the Examiner's objection. Applicants thank the Examiner for noting this typographical error.

Applicants respectfully submit that the application is now in condition for allowance with claims 1, 4, and 5 being allowable. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

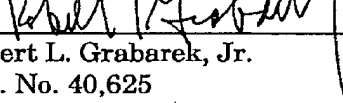
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If required, this paper should be considered to include a Petition for an Extension of Time sufficient to effect a timely response. Please charge any such fee, any deficiency in fees, or credit any overpayment of fees, to Deposit Account No. 05-1323 (Docket No. 101437.57334US).

Respectfully submitted,

CROWELL & MORING LLP

Dated: October 19, 2009

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